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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,552	02/25/2002	William Michael Lafferty	11335.2	1847

7590 03/10/2004

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EXAMINER

SMITH, ZANDRA V

ART UNIT PAPER NUMBER

2877

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



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10/084552

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER
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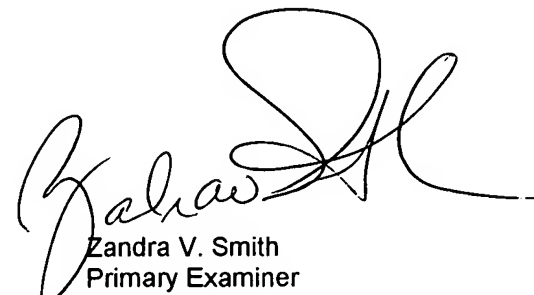
0204

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Please find, enclosed, a new non-final office action in response to the inadvertent omission of examination to claims 15-22.


Zandra V. Smith
Primary Examiner
Art Unit: 2877

Office Action Summary	Application No. 10/084,552	Applicant(s) LAFFERTY, WILLIAM MICHAEL	
	Examiner Zandra V. Smith	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-22 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7, 8, 10, 11, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 3-6, 9, 12-14, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7-8, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rahbar-Dehghan (US 6,587,197)*.

As to **claims 1, 8, and 10**, Rahbar-Dehghan discloses a multiple microchannels chip for biomolecule imaging, comprising:

a plate (10) with a base having a first surface (12) and a second surface (14);

a plurality of parallel elongated capillary tubes supported by the base (fig. 3), wherein each tube defines a lumen extending through the base between the first and second surface, further each tube has an inner diameter less than 500 microns (col. 5, line 5), and further wherein each tube acts to optically distinguish light directed from inside the lumen toward the interior surface from light directed along the axis for optical detection (see fig. 5). Rahbar-Dehghan differs from the claimed invention the aspect ratio is not provided; however providing an aspect ratio of any order would have been obvious to one having ordinary skill in the art as a means to allow diffusion of the particles from the sample at a rate that provides a detectable change in the optical properties. Rahbar-Dehghan also fails to provide the density of well, however since providing wells at a density would allow for allow for the maximum number of possible wells

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while preventing cross-talk, it would have been obvious to one having ordinary skill in the art at the time of invention to provide the claimed density.

As to **claims 7 and 11**, Rahbar-Dehghan discloses everything claimed, as applied above, in addition the plate is used for holding fluorescent samples (col. 3, lines 45-55).

Claims 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rahbar-Dehghan (US 6,587,197)* in view of *Coffman et al. (US 6,464,942)*.

As to **claim 2**, Rahbar-Dehghan discloses everything claimed, as applied above, with the exception of reference indicia, however to do so is well known as taught by Coffman. Coffman discloses a plate alignment system that includes reference indicia (col. 2, lines 19-30). It would have been obvious to one having ordinary skill in the art at the time of invention to properly position the plate for testing of the samples.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Rahbar-Dehghan (US 6,587,197)* in view of *Briggs et al. (5,560,811)*.

As to **claim 15**, Rahbar-Dehghan discloses a multiple microchannels chip for biomolecule imaging, comprising:

a plate (10) with a base having a first surface (12) and a second surface (14);

a plurality of parallel elongated capillary tubes supported by the base (fig. 3), wherein each tube defines a lumen extending through the base between the first and second surface, further each tube has an inner diameter less than 500 microns (col. 5, line 5), and further wherein each tube acts to optically distinguish light directed from inside the lumen toward the interior surface from light directed along the axis for optical detection (see fig. 5). Rahbar-Dehghan differs from the claimed invention the aspect ratio is not provided; however providing an aspect

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ratio of any order would have been obvious to one having ordinary skill in the art as a means to allow diffusion of the particles from the sample at a rate that provides a detectable change in the optical properties. Rahbar-Dehghan also fails to provide the density of well, however since providing wells at a density would allow for allow for the maximum number of possible wells while preventing cross-talk, it would have been obvious to one having ordinary skill in the art at the time of invention to provide the claimed density.

Rahbar-Dehghan differs from the claimed invention in that the first surface is not immersed into a container holding a sample, however to do so is well known as taught by Briggs. Briggs discloses a capillary electrophoresis system for separation of biomolecules that includes immersion of a plate into a container holding a sample (col. 9, lines 50-65). It would have been obvious to one having ordinary skill in the art at the time of invention to immerse the plate into a container holding a sample to transfer the sample to the plate for analysis.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Rahbar-Dehghan (US 6,587,197)* and *Briggs et al. (5,560,811)* and further in view of *Malecki (4,587,213)*.

As to **claim 16**, Rahbar-Dehghan and Briggs disclose everything claimed, as applied above, with the exception a humidified environment, however to do so is well known as taught by Malecki. Malecki discloses a system for determining microorganism population that includes the use of a humidifier (col. 14, lines 15-25). It would have been obvious to one having ordinary skill in the art at the time of invention to use a humidifier to prevent the drying out of the culture.

Allowable Subject Matter

Claims 19-22 are allowable over the prior art of record

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Claims 3-6, 9, 12-14, and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious, a capillary tube having an interior wall presenting said interior surface to surround and define said lumen; and an outer wall surrounding said interior wall and said lumen for absorbing light directed toward said interior surface of said interior wall, heat treated sleeve glass, interstitial material, EMA glass, a cap, a high pressure fluid in the through holes or the manufacturing step of cutting an optical fiber, stacking the sections to create a multi, pressing and heating the plurality of multi's.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schellenberger et al (US 6,306,578).

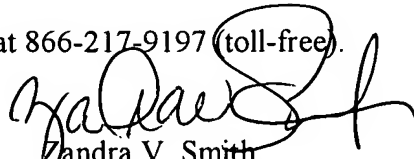
Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (571) 272-2429. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Zandra V. Smith
Primary Examiner
Art Unit 2877